THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by WILLIAM HUNTING, F.R.C.V.S.

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PROFESSOR GLAISTER'S ADDRESS.

The introductory lecture at the opening of the Session at the Glasgow Veterinary College was delivered by Professor Glaister of Glasgow University. We regret that space only allows us to reproduce a part of the address, because the subject was ably and fairly treated by a speaker who has included in his acquired knowledge a thorough mastery of the work done by veterinarians, and who seems to recognise our position more justly than any other writer or speaker who has lately favoured us with his opinions. Our extract commences on page 343 and should be read carefully.

Professor Glaister assumes that a connection between a University and a veterinary course of teaching would be desirable, and we all acknowledge that a University degree would be accepted by the public as a hall-mark of proficiency. The difficulties of reconciling the best interests of the veterinary profession with the advantages of University education are great. No University is prepared to form a special veterinary faculty and to arrange for a full course of veterinary teaching. There are not a sufficient number of students to make such a special faculty remunerative. There are some classes which may be taken in common with medical students, but they only amount to one-fourth of the curriculum demanded by the R.C.V.S. The introductory sciences of Biology and Chemistry are quite common to both veterinary and medical science, but physiology cannot be taught to a combined class, nor can Materia Medica and Therapeutics. If they are it is not progress, and can only supply teaching inferior to that now offered in the best veterinary schools.

But even if the classses are properly arranged a difficulty arises over the examinations. We believe that our one portal system of graduation is the very best that can be adopted, and we are strengthened in this belief by the efforts now being made by the medical profession to attain the position we possess. The fact is that our desire for University connection is that we may obtain a degree which will carry us a step higher than the diploma of the R.C.V.S. This may be obtained as a post-graduate matter, and we believe that in no other way is it possible to reconcile veterinary interests with University connection.

The latter part of Professor Glaister's address was devoted to another subject. He said :—"Much admirable work has been done in this and other countries by veterinarians . . . . . and much new ground remains to be explored and mapped out." This is very different from the statements made in other quarters, and we are grateful for the acknowledgment. Professor Glaister sees the wide field for research and he confesses that no opportunities are afforded us for work. He thinks the Government of this country might well take a lesson from the ways of our Colonies and from foreign Governments. Then should we have a chance to display the talents we possess.

THE BOARD OF AGRICULTURE'S MODEL.

When the Board of Agriculture was created it took over the Veterinary Department from the Privy Council. Professor Brown was then Director-General of the Department—a position which gave him the power of suggesting and initiating work and methods required for the control of disease. On his retirement a change was made and the veterinary experts were pushed back into an inferior position where they were neither seen nor heard unless summoned by their superiors.

We were told that the changes were only made to place the veterinarians of the State on the same level as the Medical Officers at the Local Government Board. No doubt this was truly the idea of the Government clerks and private secretaries who ran the show. They assumed that the ways of the L.G.B. must be perfection, and that the brand new Board of Agriculture could not do better than copy the older model. The answer to the question whether the model was good or not was assumed, and so we had another department framed on the vicious principle of canonising the clerical and subordinating the expert element.

This principle of government obtains all through —or rather it did until lately. The Admiralty has been reformed and experts now predominate. The War Office is being reformed and the chief advance towards efficiency there is the rise of the expert.

We gather from a report of the British Medical Association that an attempt to reform the Local Government Board is to be made and we copy a note of what is proposed.

REORGANISATION OF THE LOCAL GOVERNMENT BOARD.

52. Resolved : That this meeting of the Representatives of the British Medical Association, having special knowledge and experience of the gravely defective constitution and status of the Local Government Board (England and Wales) in regard to the administration of Public Health, requests the Government to show its recognition of the urgent necessity of reorganising the Local Government Board by appointing a Royal Commission to report upon the whole question.

53. Resolved : That a copy of the foregoing Resolution, together with the documents relating thereto, be sent to the Divisions with the request that their Parliamentary Representatives support the proposed appointment of a Royal Commission.

In pursuance of the Resolution the following documents are appended :—

(A) Local Government Board Bill. The Bill was drafted to indicate the kind of reorganisation of the Local Government Board which the Association thinks desirable.

(B) A memorandum which was communicated, with a copy of the Bill, to the Treasury Committee which had the subject under consideration.

(C) A memorandum by the Medico-Political Committee submitted to the Representative Meeting, in reference to the Report of the Treasury Committee.

(A.) LOCAL GOVERNMENT BOARD BILL.

MEMORANDUM.

The object of this Bill is to substitute for the Local Government Board as at present constituted a Board containing a Parliamentary president and vice-president and four expert members. The Board would continue, as at present, to have a Parliamentary secretary, and so would have three instead of two representatives in Parliament.

The present Board was constituted in 1871 on the analogy of those Government Departments which represented as a matter of history Committees of the Privy Council. It comprises as ex-officio members the principal Secretaries of State and some other great officers of the Crown, but it is not, and probably never was intended to be, a working body for the despatch of business. It is believed never to have met.

The work of the Local Government Board is growing in variety and importance, and can only be transacted with the aid of persons possessing high professional qualifications. *At present the expert officers of the Board are merely its servants, and can tender advice only upon invitation.* It is considered that the efficiency of the Board would be increased if the Board itself comprised expert members who could initiate matters for discussion. A third Parliamentary representative, who might be a Peer, would also be of advantage.

A precedent for the change proposed will be found in the constitution of the Local Government Board for Scotland (*see* the Local Government (Scotland) Act,1894), which includes two professional men. The Local Government Board as proposed to be reconstituted would also be similar to the present Board of Admiralty.

The Bill proposes to recognise the importance of the office of the President of the Local Government Board by raising him to the rank of a Secretary of State.

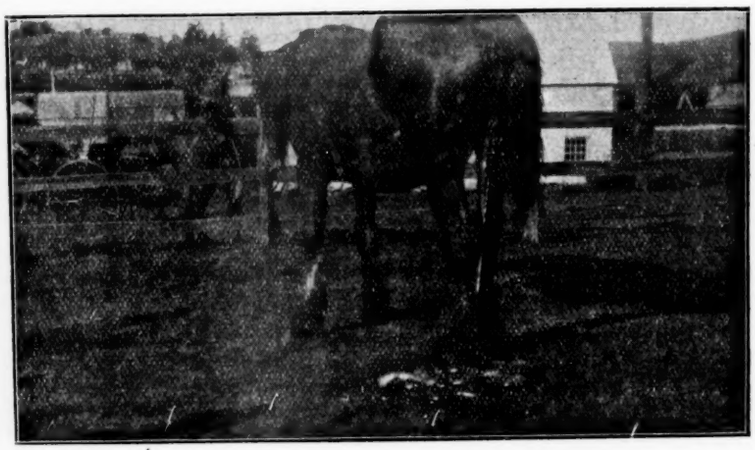
The amendments and repeals introduced into the Bill are merely consequential on the foregoing proposals.

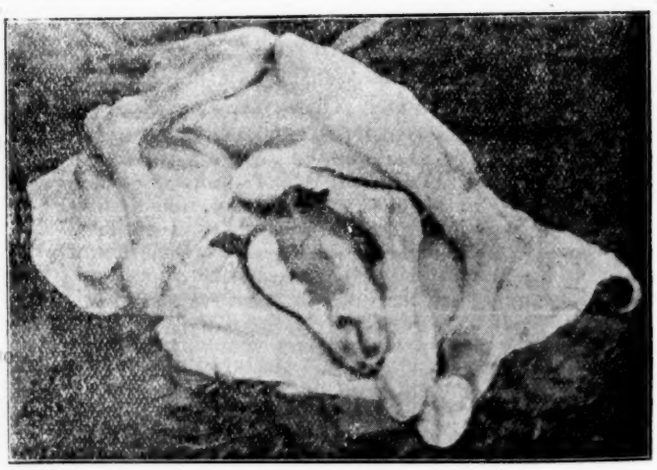
In effect the proposal is that the Local Government Board should really be a Board, and that oneof its members should be a medical man with special experience in Public Health Administration.

It has always been a puzzle to us that the British taxpayer should so quietly permit its Government to be run by a set of fossilised cliques, whose only successes were due to the brains of the experts they occasionally consult.

THREE CASES OF RUPTURED VAGINA.

Case I. was a valuable blood mare which had been sent to the horse. Her owner received a wire to say that she was very bad, and immediately drove in for me. As I had 22 miles to go it was 11 p.m. before I reached my destination, and on arrival the mare had been dead some hours. I was informed that she had inversion of the womb, but on examining her the following morning found a rupture of the superior wall of the vagina and several coils of bowel protruding from the vulva. This the breeder had mistaken for the uterus. He said that the mare was served in the usual way and stood perfectly quiet the whole time. After service she commenced to strain and roll about, as though suffering from colic. The straining became more violent, and ultimately prolapse of the bowel, and death supervened. It is curious how a rupture of





this kind occurred during service, and that the mare should stand quietly notwithstanding its occurrence. I could not find any evidence of disease of the vaginal wall.

Case II. was a draft mare, due to foal the following month. She was all right when fed at seven a.m., but about 10 a.m. labour pains commenced and subsequently grew more violent. I was summoned, but happened to be away delivering a calf, and it was nearly 3 o'clock before I saw the mare. She was then down, with several yards of small intestine lying behind and under her, and I immediately ordered her destruction.

Post-mortem revealed rupture of vagina situated in the lower wall just under the os uteri. The presentation of the foal was anterior, with the two

fore legs presenting, the neck bent round to the right, with the head showing on the opposite side under the body. The enclosed photos will illustrate the case should you consider it worth publishing.

Case III. occurred in my practice a couple of years ago, and I introduce it because I had an opportunity of applying treatment. The subject was a young brown cart mare which was found one morning with the foal's leg protruding through the anus. The owner managed to return it and deliver the foal, and sent for me, a distance of 16 miles. On arrival I found a tear in the superior vaginal wall extending throughout the whole length of the attachment between the vagina and rectum, while the inferior rectal wall showed a corresponding wound. The perineal region, vulva, and anus were extensively swollen, but constitutional symptoms were not severe. After scrupulously cleansing the wounds with warm creolin solution, I sutured the rectal wound with sterilised gut by means of one hand working the needle in the rectum, and the other receiving it below through the vaginal wound. The operation was performed standing, the mare apparently not feeling the needle. The wound in the vagina I left open to allow drainage, as otherwise the discharge from above would probably have collected between the rectum and vagina and burrowed its way into the peritoneal cavity. After treatment consisted in syringing the vagina twice daily with warm creolin solution, while the mare was starved for 48 hours, and opium and aconite administered to keep the bowels at rest and allay hunger. I only saw the mare once, and she made an uneventful and thoroughly satisfactory recovery without the appearance of the recto-vaginal fistula I so much dreaded.

Sexual Precocity in Foals.

The following cases, which are unique as so far as my experience goes, may prove of interest to your readers.

Case I. was a foal out of a stout pony by a thoroughbred horse. At about six weeks old he began to tease his mother and soon learned to mount and serve her like a stallion. His owner has been breeding horses for the last fifty years, and was greatly interested in this prodigy. He informed me that he (the foal) would perform the sexual act in precisely the same way as a fully matured horse, though he was unable to say whether an emission of semen occurred or not. At three months old this youthful stallion pursued whatever came in his way from a heifer to a filly, and eventually became such a nuisance that he had to be castrated. From his earliest months of existence he gave evidence of being devoid of natural affection, and would merely visit his mother for a suck, running off immediately afterwards to chase the fillies or heifers, as the case might be. Unfortunately I did not have an opportunity of personally observing the case, but my informant is a careful, reliable, and observant breeder of fifty years standing.

Case II is a thoroughbred foal, the property of a well-to-do farmer near here. When about two months old this foal commenced to masturbate, and he has continued the practice ever since. This is the more extraordinary as he has never had any hard or stimulating food, but is running out at grass with his mother. During the performance of the act he stands with his back arched and hind legs drawn under the body, and squeals with pleasure. So far it has not affected his condition much, although naturally he does not look as well as he should on the feed. I would be glad to know if any of your correspondents have seen similar cases.

While on the subject of breeding I may say that I have another client whose mare could not be either induced or forced to let her foal suck. She has now been dried off, and the foal is being reared by hand.

E. A. Weston, G.M.V.C., V.S.
Launceston, Tasmania.

PROPOSED MEDICAL DEVELOPMENT.

As the profession most like our own is the medical we may often obtain a hint or take a warning from its ways and methods. Just now they are preparing a Medical Acts Amendment Bill a summary of which we quote from *The British Medical Journal.*

The Bill proposes to make the General Medical Council predominant over the whole profession. The chief point to which we desire to call attention is that they appreciate one advantage we now possess and that they are to ask Parliament to grant it them:—

> "That there be one portal system of admission to the Register through a final examination controlled and managed by the Council."

Everyone now recognises this advantage, and we cannot too often impress upon our Members that there are others as well as Professor Glaister who are not unwilling to destroy it in favour of some theoretical and fancied good which may emanate from Universities who patronise us.

EPITOME OF THE PRINCIPLES OF THE MEDICAL ACTS AMENDMENT BILL.

(I) Introductory.

The Bill proposes reforms:—

(A) In the composition and mode of election of the General Medical Council.
(B) In the administrative arrangements of the Council.
(C) In the control of education by the Council.
(D) In the registration of medical and dental practitioners.
(E) In the disciplinary powers of the General Medical Council.
(F) In the legal position of the practice of medicine and surgery by unqualified persons, and the rights of registered practitioners.

(II) It is Proposed as Regards :

(A) *Composition and Mode of Election of the Council.*

1. That the direct representation of registered medical and dental practitioners on the Council be increased so that direct representatives compose at least half the Council.
2. That the direct medical representatives be elected by constituencies topographically defined, each constituency electing one representative.
3. That those universities which have medical faculties continue to be represented on the Council by one representative each, elected in such manner as each body may determine.
4. That the Licensing Corporations be grouped to form three constituencies, one for England and Wales, one for Scotland, and one for Ireland, each constituency electing one representative.

(B) *Administrative Arrangements of the Council.*

1. That the Branch Councils be replaced as regards some of their functions by Committees of the Council.
2. That the financial administration be consolidated by transference to the Central Office of the Council.

(C) *Control of Education.*

1. That the Council have complete control over the standard of preliminary general education and over the medical curriculum.
2. That the registration of students be placed under the direct control of the Council.
3. That the minimum age of registration of students be 17.
4. That the intermediate examination remain in the hands of the Universities or Corporations under the supervision of the Council.

(D) *Registration of Medical and Dental Practitioners.*

1. *That there be a one portal system of admission to the Register*, through a State final examination controlled and managed by the Council.
2. That registration be annual.
3. That there be an annual registration fee of £1.
4. That the privileges conferred by registration be clearly defined.
5. That one privilege of registration as a medical practitioner be the right to use the prefix Dr.

(E) *Disciplinary Powers of the Council.*

1. That the Council have power to suspend a practitioner without absolutely removing his name from the register.
2. That the disciplinary powers be extended to include Medical and Dental Students.
3. That the procedure be made more effective by increasing the powers of the Council in respect of witnesses, and in other ways.

(F) *Unqualified Medical or Dental Practice and Protection of Registered Practitioners.*

1. That the habitual practice of medicine or dentistry for gain by unregistered persons be definitely prohibited.
2. That the granting of bogus diplomas be constituted an offence.
3. That the signing of medical certificates by unregistered persons be made an offence.
4. That the improper use of the names of registered practitioners in connection with the sale of drugs, appliances, etc, be made an offence.
5. That medical or dental practice by companies be prohibited.—*British Medical Journal.*

ABSTRACTS FROM FOREIGN JOURNALS.

On Illnesses due to Trypanosomata.—By Prof. Dr. Robt. Koch.

(*Continued from p. 328.*)

Acute symptoms are not as a rule caused by trypanosomata in the illnesses due to them, but the symptoms of their ravages may last for a year. One notices an indefinite fever with long intermissions. In consequence of the destruction of red blood corpuscles anæmia ensues, animals, or men become weak, the appetite fails, œdema arises in different parts of the body, also erythema, and at times swelling of the glands. The trypanosomiasis of rats is the most frequent. On an average 30 per cent. of all rats have trypanosomata in their blood and in many cases this percentage mounts up to 90 per cent.

Rat trypanosomata are morphologically characterised by carrying a long point at their hind end, *i.e.*, at the opposite end to that where the whip appears. Also the centrosoma lies rather farther behind.

Regarding virulence, it is remarkable that the trypanosomata cause no appearances of illness in rats and do not appear to injure them in the slightest. They are only found in rats and not in mice. Transmission from infected to healthy rats is caused by the agency of fleas as Lydia Rabinowitsch, and Kempner have proved.

The Tsetse Illness.—The classic land of tsetse illness is the neighbourhood of the Zambesi. Livingstone noticed it and wrote well about it. Closer investigations seem to point, however, to the illness being spread over the whole of Africa. In contrast to the rat trypanosomata those of the tsetse illness have a distinct rounding off of their hind end. Also the centrosoma lies very far behind. Whilst rat trypanosomata are peculiar to rats and only transmissible on them, those of tsetse can be transmitted to all sucking animals, especially horses, mules, cattle, dogs, rats, and mice.

Regarding virulence, although horses and mules are killed by the trypanosomata cattle are little affected. There arises a certain race insensibility. Regarding the ass investigators are not agreed; Koch could not infect them. Sheep and goats are little affected and fortunately man is unaffected. Transmission to the blood of non-infected animals is brought about by a stinging fly (glossina morsitans.)

Surra.—The home of Surra is in the Philippines, Java, and the island of Mauritius. According to Koch surra trypanosomata are analogous with tsetse parasites. Horses especially, and in India elephants, are attacked by surra. Since the glossina is not indigenous to India other stinging flies are likely the transmittors.

A further trypanosomiasis occurs in South America especially in Brazil and Argentina, viz., mal de caderas. Mal de caderas parasites resemble tsetse and surra parasites, but may be distinguished by their very small centrosoma; Koch has made no

investigations on this point. Besides horses all those animals subject to tsetse illness can be attacked by mal de caderas,

A trypanosoma that can be distinguished by its large size, is the trypanosoma of Theiler which is, however, only peculiar to cattle and of very small virulence.—Ex. *Berliner Thierärzt. Woch.*

G. M.

(To be continued.)

THE HARBEN LECTURES—GLANDERS.

Delivered at King's College, Nov. 25th, 1904, by Professor J. M'Fadyean, M.R.C.V.S., M.B., C.M., B.Sc., etc.

The lecturer commenced with a rapid review of the history of the disease, which was traceable back to the earliest days of medical literature. Aristotle, Hippocrates, Apsyrtus, and Vegetius, all described the symptoms of glanders.

The earliest English writer to mention glanders was Herbert, who wrote on Husbandry in 1523. He mentioned farcy as well as glanders, but did not recognise their relation to each other. He described glanders as contagious, and incurable when it reached the stage of "mourning at the chine."

Markham in 1662 described glanders and farcy, but did not seem to be aware that they were interchangeable.

A translation of Soleysell by Hope in 1717 referred to glanders as a most dangerous and malignant disease.

About the close of the 18th century a number of writers devoted some attention to the disease, but it was to a Danish veterinarian, Viborg, that credit must be given for first arriving at the truth that glanders and farcy were one and the same disease, that they spread by contagion, and were due to a fixed virus which was destroyed by heat and dessication.

In England St. Bel, the first professor of the Royal Veterinary College, recognised the dangerous and contagious nature of glanders, as did his successor—Professor Coleman. Ventilation was Coleman's special hobby, and not unnaturally he taught that although the disease was contagious it might be generated in dirty stables by impure air.

Many writers in the first half of the 19th century arrived at the conclusion that farcy and glanders were interchangeable and that both were contagious, but very few believed that they arose and spread only as the result of contagion.

Not until Loeffler and Schutz in 1882 discovered the causal organism was it definitely settled that glanders could not arise *de novo*. Probably only during the last 20 years has this belief been generally accepted.

The Causal Organism.—Glanders is specially an equine disease, and if all glandered horses could be destroyed the disease would be exterminated. It is due to a micro-organism—the bacillus mallei, a tissue parasite seldom found in the blood, even in acute cases. It presents the appearance of a non-motile rod, but in some cultures gives rise to a thread-like formation. It is easily cultivated on sterilised potato, grows readily at a temperature of from 97 to 100° F., causing on the 3rd or 4th day a yellow discoloration which becomes darker in time, occasionally reaching a chocolate brown, which is very characteristic. In bouillon it causes turbidity, with a surface growth and a tenacious ropy sediment.

Staining the bacillus in tissue sections is difficult, especially in old lesions when the organisms are few. (A full description of the best staining methods was given).

Disinfection.—Thorough disinfection of infected articles or premises is not difficult. The vitality of the bacillus is not great, being destroyed in a short time by exposure to sunlight, and by such substances as carbolic acid and corrosive sublimate. The bacillus retains its vitality in ordinary clean water for some 10 or 15 days, and silk threads, which had been saturated with pure cultures and then dried, were found infective as long after as 80 days. In ordinary positions such as are afforded in stables the bacillus has to contend with other organisms which impair its vitality. The old notions of the necessity for destroying old infected buildings to get rid of infection are entirely wrong. The cases in which glanders has broken out in horses that were put into old stables which had been badly infected months or years previously are explained by the simple fact that some of the animals suffered from latent glanders when placed in the stable.

Method of Spread.—That inoculation and ingestion may spread glanders no one doubts. It may also be said that intra-uterine infection is possible. As to spread by inhalation the evidence is not so conclusive. The experiments made by Nocard on the point were reviewed, as were experiments conducted by Schutz. These two scientists were not in accord as to the result, and the Professor finished his first lecture by stating that next Friday he would recount some researches made by himself.

PROF. GLAISTER ON UNIVERSITY DEGREES.

The very name of University implies that such an institution should have under its wing the teaching and supervision of all kinds of scientific education. The establishment of a Faculty of Commerce with teaching and degree-granting facilities in the recently-established University of Birmingham, may be taken as an example of the scope and trend of the future policy of our Universities; and when one considers that music, besides commerce, has been deemed a fitting subject of University study, examination, and degrees, we can hardly imagine any good reason against the inclusion of pharmacy, dentistry, and veterinary medicine.

Returning to the Edinburgh case, however, we may take it as a text from which to consider certain problems which emerge at the very outset in connection with the process of affiliation of a College with a Scottish University. This process in Scottish Universities differs from that in English Universities in that it is bounded by the conditions laid down in the Universities (Scotland) Act, 1889. Now that the Universities Commission has ceased, the following conditions regulate the conditions of affiliation:—(1) The University and the

College shall be consenting parties ; (2) The University Court of any University may make ordinances for the affiliation of Colleges under regulations to be laid down by the Universities Committee. So far as I know, with the exception of the instance of University College, Dundee, the conditions of affiliation of which with the University of St. Andrews were formulated by ordinance of the Commissioners appointed under the Act, no other college has, as yet, been incorporated with any of the Scottish Universities. It seems to me as my personal opinion, that at least three things would be required of a College seeking affiliation by a University Court : the first, that the College is sufficiently endowed, second, that it is efficiently equipped as a teaching institution, and third, that in other respects the proposal to affiliate is satisfactory to the Court. Such conditions as these are only prudent and necessary in view of the present financial position of Scottish Universities. The income of these institutions is barely sufficient to enable them to carry on efficiently the work with which they are at present charged ; consequently, to take a new College under their wing which is not sufficiently endowed financially, or efficiently equipped educationally, would merely increase their financial and educational difficulties. One cannot wonder, therefore, if University Courts narrowly scan the financial position and educational status of any College which seeks affiliation. It would appear as if none of these disabilities were attached to the Dick College proposal. There would seem to be sufficient endowment of its chairs, thanks to the Dick endowment, the benefactions of Miss Dick, and the munificent gift of Mr. McCallum ; and, besides, the quality of the teaching has satisfied the Royal College of Veterinary Surgeons, and both parties are willing.

But the practical difficulties, so far as the vete inary profession is concerned, seem to begin at this stage. Owing to the one-portal system of entrance to the veterinary profession, the exclusive right of the Royal Veterinary College to license practitioners, and the requirements, therefore, that all veterinary students must present themselves for examination before the examiners appointed by the College, a practical, and it seems to me, serious difficulty presents itself. The so-called practical man, reviewing these facts, and bent only on securing a bread-and-butter qualification to enable him to practise, has, in the present state of the veterinary profession, and the emoluments offered for the tenure of public offices, some difficulty in perceiving the benefit, if any, which would accrue to him by taking his classes in a college affiliated or recognised by a University, by being required to pass two sets of examinations, one being that of the Royal College to which he must submit his knowledge before he can legally practise under certain statutes, and the other in the same subjects on a higher standard to obtain a University degree, and by paying double examination fees. He has to be told that hitherto there has been no parallel case in any of the professions whereby he might have been able to test the practical value of the above course. He does not find such, for example, in the medical profession, because after passing the medical preliminary examination, the student of medicine may study at any University, College, or School of Medicine duly recognised by a degree or diploma-granting College, and after passing the necessary examinations he shall receive degrees or diplomas which entitle him to be placed on the official register of qualified practitioners. In this case, one completed curriculum of study and the passing of one set of examinations, enable him at once to enjoy all the privileges of his profession. This is owing to the fact that entrance to the medical register has many portals, although the conditions of entrance are carefully defined and safe-guarded. But the case of the veterinary student in the proposed arrangements in Edinburgh, or as is hinted in the future arrangements for Liverpool, is different. He may receive all his tuition within the University, as in Liverpool, or in the Dick College when it is affiliated to Edinburgh University, or partly in both institutions, but in the end, in order to receive the necessary license to practise, he has to pass the examinations of the Royal College of Veterinary Surgeons. Moreover, his case is even different from the University candidate for degrees in agriculture, in whose curriculum the subject of veterinary hygiene, among others, must be studied, since his degree does not require to be registered in any register in order to enable him to act as a competent agriculturist. And the same is true of degrees in music. The only parallel case, which is running alongside the veterinary proposal, and which is also in the tentative stage, is that for a University degree in pharmacy. The body charged by statute with the duty of admitting men after examination and fulfilment of other conditions to the register of qualified pharmaceutical chemists is the Pharmaceutical Society of Great Britain and Ireland. In the draft ordinance for the degree of B.Sc. in pharmacy it is laid down that the candidate may pass his first examination in the University, but before proceeding to the final examination, among other conditions, he must already be a chemist and druggist under the Pharmacy Acts. In like manner, in the draft veterinary ordinance of the University of Edinburgh, it is necessary before a candidate may proceed to graduation, that he be a registered veterinary surgeon.

It has been suggested as a better course under the circumstances, and for the success of the movement, that the University should recognise *pro tanto* for graduation the teaching of a Veterinary College of the subjects of the veterinary curriculum, and should, instead of requiring re-examination on the same subjects, offer post-diplomate courses of study, which after fulfilment thereof and examination thereon, would satisfy the conditions for a degree, as is done at present in the degree of B.Sc., in public health after graduation in medicine. That is the course which has been followed up till now in the University of Manchester, with the important difference, however, that instead of giving a degree, it gives a diploma in Veterinary State Medicine. In order to obtain this diploma, the candidate must, before proceeding to the first part of the examination, have held the diploma of the Royal College of Veterinary Surgeons for at least one year, and before entering for the second examination, have pursued certain further defined courses of study. That University, for the purposes of this diploma has appointed lecturers in different veterinary subjects, whose courses qualify for the diploma. This, however, it will be noted, is not a complete parallel to the course proposed in Edinburgh, since the diploma is limited to Veterinary State Medicine. It appears to me, therefore, that the problem of University veterinary education is confronted by a serious practical difficulty, so serious, it seems to me, that unless some way out of it is devised, it will be fatal to the success of the scheme. That difficulty, in a word, is the increased monetary cost and duplicated examinations entailed in obtaining the degree. Is there any way out of this difficulty? It appears to me that a working scheme, at once expedient and efficient, might be arrived at by mutual concessions on the part of both the Royal College of Veterinary Surgeons and the University. This however, before accomplishment, must take count of the difference in the modes of conducting examinations by these bodies respectively. In all degree examinations in Scottish Universities, of the two examiners in each subject one shall not be a professor or lecturer in the University ; in the Royal College, on the other hand, the examiners in each subject are medical men and veterinary practitioners of standing, who are not, however, teachers of the subject in any

Veterinary College. Of the subjects of the four veterinary examinations for the diploma of the Royal College, there appear to me only four, possibly five, subjects which might be taught by others than a veterinary expert, viz. :—(*a*) Chemistry and Elementary Physics, Biology, resolved into elementary Zoology and Botany, Histology and Physiology, Materia Medica, Practical Pharmacy, Therapeutics, and Toxicology, to which might be added Veterinary Hygiene and Dietetics. It would not be difficult to arrange amicably that the examinations in these subjects should be conducted conjointly by the University professors or lecturers, and examiners appointed by the Royal College. The other subjects of the curriculum must be taught by veterinarians who would be lecturers or professors of the University in the affiliated college, and the examinations in these subjects might be conducted conjointly by these, along with examiners appointed by the Royal College for degree purposes only. So far as I can see at present, it will entirely depend upon the attitude of the Royal College respecting these matters whether or not a *modus vivendi* may be established, for in their hands is the key of the situation. But the crux of the difficulty seems to consist not so much with respect to granting degrees in veterinary science, desirable though that be, as in the view which may be taken by the Royal College respecting the recognition *pro tanto* of the University examinations for the diplomas of the college. Assuming the absence of such recognition, there seems to me to be two substantial reasons why the scheme proposed is not likely at first, at least, to command the support of veterinary students, viz. :—First and mainly, the extra cost involved and the double examinations, and second, the want of encouragement by the State and the public in the advancement of the scientific status of the veterinary profession, as exhibited in the emoluments offered to the holders of public and statutory appointments.

The situation, assuming the eventual outcome to be that the Royal College could not see its way to relax its hold of any of the examinations, and to widen the *personnel* of its examiners, would probably resolve itself into this: that the bulk of students would continue to make the diploma to practise granted by the Royal College their objective point, and would be contented with that, while a small percentage might probably be induced to add to that qualification the degree in veterinary science. If the alliance of veterinary medicine with University teaching is deemed desirable, as it seems to me to be, the foregoing would be a deplorable ending to a scheme which ought to receive much deliberate and sympathetic consideration from all concerned. Of one thing the Royal College may rest assured, that the standards of tuition and examinations for degrees in Veterinary Science would not be less high, however much higher, than those which at present obtain for the diplomas of Member and Fellow of the College. Such a guarantee may well give the College pause before rejecting any reasonable scheme which may be proposed, consistent with their legal rights and privileges. If a substantial advancement is to be made in the direction of University veterinary teaching, now is the opportunity; and all who have the interests of the veterinary profession at heart will watch with keen and anxious interest the future developments of the issue.

I pass from this subject to ask your attention for a few moments to another subject which, however, more concerns veterinarians in practice, and those who are to succeed them.

Much admirable work has been done in this and other countries by veterinarians as the late Professor Walley, M'Fadyean, of London, Williams, and others, and by members of the medical profession as Sydney Coupland, Hamilton, of Aberdeen, and others, regarding the intimate causes of diseases of animals; but in this field, as in the similar territory in human medicine, much new ground remains to be explored and mapped out. In the limited area whose confines are bounded by the relationship of diseases of animals which are communicable from animal to animal, and from animal to man, much work remains to be done, and in its performance proportionate shares fall to the practitioner, the pathologist, and the bacteriologist. Large and important discoveries await the investigator who is endowed with keen instincts, technical capacity, scientific imagination, and above all, with infinite patience and perseverance. If I might be permitted to offer the suggestion to the students I see before me, I should recommend that while their first duty perhaps consists in acquiring an all-round knowledge of the work of their profession, they should pay close attention to the pathology of diseases of animals, and to bacteriological methods of investigation. The new ground to be tilled demands tools of this kind, without which no efficient cultivation is possible. Let me, therefore, urge strongly upon you the great need for unremitting attention to these subjects, even to the length of taking post-diplomate courses in these subjects. All of you could with great advantage to yourselves and to your clients, utilise a few months succeeding the possession of your diploma to secure the valuable information which the technique of a pathological, bacteriological, and chemical laboratory can offer. Such time so spent would be well spent. A keen student myself of veterinary literature in these departments, I have followed with great interest and profit the investigations which are being and have been made into problems affecting the health of animals and man in one of our younger colonies. Those of you who are acquainted with the subject will, I think, agree with me in the view that the veterinary organisation and administration of New Zealand are most praiseworthy, and that the work which has been done under the eye of the chief veterinarian, Mr. Gilruth, and which has been published in official bulletins, issued by the New Zealand Department of Agriculture, is most admirable, and well worthy of careful study. Doubtless there exist in that comparatively new country, under the arrangements which have been made, better facilities for watching problems as they arise, and for experimentation thereupon if necessary, than even in older countries. In particular, I have been struck with the patient and exhaustive work which has been done respecting the causation of what has been called in New Zealand "Winton disease," and in Nova Scotia, "Pictou disease." This disease which attacks horses and cattle, and the essential pathological lesion of which is hepatic cirrhosis, had for several years afflicted stock in different parts of New Zealand. Various views respecting its cause were entertained by horse and cattle breeders. Clinically and pathologically, it seems to be identical with the disease named by Hamilton, lupinous cirrhosis, on the supposition that it is caused by the affected animals eating lupins. While, therefore, this disease has been found to exist sporadically in different parts of the world, as South Dakota, the State of New York, South Africa. and Germany, and while individual cases have been recorded at home by the late Professor Walley, by Professors M'Fadyean, Williams, and others, so far as is known in New Zealand and Nova Scotia, only, has it attained epidemic proportions. Gilruth in New Zealand set himself by direct experimentation to discover the cause. From enquiry and personal observation, it appeared to him that there was one feature common to all the districts in which animals were attacked, and that was the unusually luxuriant growth of a weed which is commonly found in our pastures here, but in relatively much smaller amounts. This weed has been variously named *ragwort*, *ragweed*, *giant groundsel*, *stinking Willie*, *bunnel*, and by other popular names, but it is known botanically as *senecio jacoboea*. For purposes of investigation as to whether or not this weed had any

direct causal relationship to the affection, portions of land much covered by the weed were fenced off, and cattle and horses of different breeds and ages were placed therein to graze. The result of these experiments was generally that the animals more or less quickly were attacked with the clinical symptoms of the disease, and several of them died, their bodies on post-mortem examination exhibiting mischief of the liver, and that organ, when examined microscopically, the marked signs of hepatic cirrhosis. Gilruth made bacteriological examination of the bodies of these animals, but was unable to find evidence of the existence of any bacterial cause.

Such work as this, which, moreover, is only one item of the research work which he has pursued, ranks of high value. In like manner, he has investigated in that colony epidemic of Contagious Mammitis, and by his bacteriological research, shown by photomicrographs of the organism, has been able to confirm the researches of Nocard and Leclainche in France, of Dieckerhoff in Germany, of Bang in Denmark, and of Falleti in Italy.

It appears to me that it would be well for the Government of this country to take a lesson from New Zealand and from America and other States, in the encouragement which these give to veterinary organisation and research. There is no want of problems for our investigators, but there is little encouragement to investigate. Many of us are hopeful that a better day in this respect will dawn for scientific observers in this country, for, after all, it would be national money well spent. So long, however, as things remain as at present, let all those who are imbued with the scientific spirit for the work's sake, patiently persevere in their well-doing, for he is a benefactor to his race who adds to the sum of knowledge whereby national health is improved and national wealth is increased.

MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the Grand Hotel, Leicester, on Thursday, Nov. 10th, 1904. The President (Mr. T. A. Huband, of Cheltenham) occupied the chair, and there were also present: Messrs. T. J. Merrick, Northampton; Trevor Spencer, Kettering; T. H. Hobson, Leicester; F. H. Gibbings, Nottingham; W. Carless, Stafford; W. S. Carless, Worcester; H. A. Barrett, Nuneaton; H. Pemberton, Bridgnorth; J. J. Burghnall, Loughborough; J. Bainbridge, Wellingborough; J. Malcolm, Birmingham; McGregor, Kibworth; Cockburn, Eastwood; R. Jermyn, Bristol; H. Collett, West Bromwich; J. W. Coe, Stoke-on-Trent; Haywood, Leicester; Parkes, Wellingborough; Reynolds, Daventry; A. Over, Rugby; F. L. Gooch, Stamford; F. A. Simpkin, Market Harborough; and the Hon. Secretary, Mr. H. J. Dawes, West Bromwich. The visitors present were: Prof. Wooldridge, Dublin; Messrs. W. Packman, Bury; J. G. Parr, Leicester; and J. A. Mason, Kibworth.

Apologies were received from the following who were unable to attend: Dr. Manley, West Bromwich; Prof. Pritchard; Messrs. John Blakeway, W. H. Brooke, W. G. Burndred, W. Grasby, F. W. Wragg, A. Hodgkins, H. Thackeray, J. F. Simpson, T. J. Brain, L. W. Heelis, T. Ludlow, J. A. Connell, C. J. Byner, A. B. Forsyth, A. Green, L. R. Green, F. W. Barling, G. Wartnaby, J. S. Barber, J. C. Deville, H. D. Pritchard, F. W. Carless, J. Martin, B. Freer, R. C. Trigger, and others.

The minutes of the last quarterly meeting were read and confirmed.

The following gentlemen were nominated for membership of the Association:

Mr. E. R. Holme-Woodcock, of Eccleshall, nominated by Mr. W. Carless, and

Mr. J. G. Parr, of Leicester, by the Hon. Sec.

The Royal Institute of Public Health.

The following letter, from the Royal Institute of Public Health, was read by the Hon. Sec. and ordered to be entered upon the minutes:

Royal Institute of Public Health,
19 Bloomsbury Square, S.W., Sept. 13th.

Dear Sir,—I beg to acknowledge the receipt of your letter of the 12th inst., and to again express the regret of the Council with reference to your complaint. I am desired further to inform you that with a view of further cementing the connection of veterinary science with Public Health, the Council have appointed Professor J. M'Fadyean, Principal of the Royal Veterinary College, as the Harben Lecturer for this year. They have also added his name to the Council. As regards the holding of a Veterinary Section at the Congresses, the Council are quite in agreement with your resolution. At one or two former Congresses this has been done, but it has been found difficult to obtain a good programme of papers. At the forthcoming Congress at London, it is hoped that it will be found possible to hold such a section.—I am, yours faithfully,

(Signed) F. Drew Harris, M.B, D.P.H.
Assistant Secretary.

To H. J. Dawes, Esq., F.R.C.V.S.
Hon. Sec. Midland Counties V.M.A.

Notice to Members.

The Hon. Sec. said he was sorry it was necessary from time to time to call attention to the difficulty he experienced in getting certain members who borrowed the instruments of the Association to return them. It was unfair to other members that the instruments should be kept longer than the prescribed time. One member in particular kept some instruments six months, and although written to several times, he did not even acknowledge the letters sent to him.

Several members present expressed their strong disapproval of such conduct, and sympathised with the Hon. Sec. in the great trouble to which he was often put.

It was eventually agreed, upon the motion of Mr. Gooch, seconded by Mr. W. S. Carless, that any member who kept the instruments longer than a fortnight, without good and sufficient cause, should not be allowed to borrow them again, and an intimation to this effect is to be sent to members at the time the instruments are lent.

ACTINOMYCOSIS.

By Prof. Wooldridge, M.R.C.V.S., Dublin.

This is a specific disease affecting several species of animals, particularly cattle and man, and due to the inoculation of a vegetable parasite commonly known as "the ray fungus." The disease has a very wide distribution, being well known in America as well as in almost every country in Europe. It appears to be most common in Russia where from 2·5 to 5·5 per cent. of the cattle slaughtered in Moscow are reported to be found affected. On account of the frequeney with which actinomycosis affects the tongue and the nature of the lesion, it is often called "wooden tongue" in this country, while in America the name "lumpy jaw" obtains. The disease is generally "sporadic," occurring in isolated cases, and is not contagious in the ordinary sense of the term, since healthy animals appear to cohabit with affected ones with impunity. In one experiment* 21 healthy animals were tied between diseased

* Conducted by Dr. Salmon, U.S. Depart. of Agric.

ones where they were obliged to eat food soiled with the discharges from the tumours, and after four months of such exposure not one of them showed signs of being affected either while alive or when slaughtered. When it affects several animals in the same herd it is probable that they have each contracted it from a common source and not from one another. The disease may, however, be transmitted by experimental inoculation from animal to animal, and Crookshank quotes a case in which he successfully inoculated a calf with material direct from the human being. It appears to be more prevalent in swampy or marshy districts and it is more commonly met with in barley growing districts. Bang and Jensen record an outbreak among the cattle of a seaside district in Denmark, which were fed on barley grown on reclaimed land. The frequency with which disease is found about the mouth suggests that the parasite is conveyed by the food and gains access by wounds or lacerations of the mucous membranes. It is generally believed that the organism grows on various cereals, but most abundantly on barley. The latter of all cereals is most likely to wound the mucous membrane; hence it is not surprising to find that barley grains or pieces of barley awns or straw have been discovered in the lesions. Wounds caused by eruption of teeth, and caries of teeth also afford channels of infection. Skin wounds produced by wire fencing or by rubbing may also become infected. The disease is not a very fatal one. It generally produces its effects by mechanical interference with prehension, deglutition, or respiration. The majority of cases if brought under treatment sufficiently early can be cured or at any rate improved to such an extent as to permit the animal to be profitably fed for the butcher.

Macroscopic Characters of the Lesions.

The ordinary lesion consists of a formation of new tissue at and around the seat of inoculation of the ray fungus, frequently with suppurating foci which constitute small abscesses in the substance of the growth. The latter may point and burst, emitting pus which feels gritty on being rubbed between the thumb and fingers. If a little pus or a scraping from a freshly cut growth be spread on a piece of glass, small granules yellowish white, and about the size of a pin's head may be seen. As will be described later, these constitute colonies of the parasite. In this country the most common seat of the disease is the tongue, an indurating glossitis being set up. It commences with the formation of raised nodules which are hard and firm to the touch. Extending inwards from these there is a marked proliferation of fibrous connective tissue which may extend into the muscular tissue. There is frequently ulceration of the mucous membrane. The increase in size of the tongue makes that organ too large for the mouth, and it is consequently protruded to a varying degree. (Fig. 2). The tongue lesion rarely suppurates. The lips, gums, and buccal mucous membrane anywhere may become inoculated, with the subsequent formation of tumour-like growths and ulceration. The growths may remain more or less diffuse, or well circumscribed and pedunculated. The outside of the face and the intermaxillary space are affected in a large proportion of cases, but the condition is rendered much worse when the superior or inferior maxillary bones are invaded. Then a periostitis is followed by a rarefying ostitis. The circumference of the bone is largely increased but its density markedly diminished owing to the formation of spongy cavities in it. (Figs. 1, 4 and 7). The skin over the swelling frequently ulcerates and shows granulations. The abscesses frequently burst and discharge the characteristic pus. In some cases the growth invades the alveoli of the molar teeth, and the latter may become displaced. This form affecting the jaw used to be erroneously called "osteo-sarcoma" in the old days. The pharynx is not infrequently affected and here the actinomycotic growths are usually but not invariably pedunculated, forming polypi which vary in size from a pea to a hen's egg. In other cases the pharyngeal lymphatic glands become affected and considerably enlarged, and may cause much trouble in diagnosis, since the only discoverable change during life is a more or less constricted pharynx without any surface irregularity. (Figs. 3 and 6). The skin and subcutaneous tissues are a frequent seat of actinomycosis, the lesions produced being popularly known in some districts as "locus" or "clyers." They may occur anywhere in the skin, but particularly about the head and neck. Commencing as a small tumour, a wen may rapidly increase in size up to several times the size of one's fist, sometimes pedunculated, sometimes attached by means of a broad base. The surface of the skin may ulcerate and discharge a purulent material which with brown crusts may cover the growth. In these cases when the surface is wiped a red granulating surface is revealed. The respiratory apparatus may become affected with actinomycosis, viz., the larynx and trachea, or the lungs. In the former case the lesions are usually polypoid, but in the lungs the lesions are either tumour-like growths varying in size up to one's fist containing suppurating foci, or they may be practically abscess cavities. Miliary actinomycosis has also been recorded. The pleura may become implicated by extension from the lungs. Other rare seats are the liver and mammary glands, and cases have been reported following castration in cattle. Generalisation is said to occur, but only very rarely. There is scarcely an organ in the whole body that has not been described as affected at one time or another.

Microscopic Characters of the Lesions.

Sections of an actinomycotic growth will generally show dotted throughout it colonies of the ray-fungus similar to those mentioned as occurring in the pus. There are surrounded by round cells or leucocytes, cells of an epitheloid type and occasionally giant cells. Passing outwards one meets with spindle shaped cells and then ordinary fibrous tissue.

Reference to Plate.

Photographs and photomicrographs taken at the R.V.C.I. by Professor Mettam and the Author.

Figs. 1 and 4.—Skulls showing considerable bone enlargements.

Fig. 2.—Nose and tongue with a more diffuse form. The anterior nares almost obliterated.

Fig. 5.—Diffusely affected fore-leg, 18½ inches circumference below the knee. Cut off above the knee.

Fig. 3 and 6.—Pharynx and larynx, showing enormous enlargement of glands on each side of the pharynx. Entrance to œsophagus occluded, and glottis almost so.

Fig. 7.—Lower jaw, showing large cavity in enlarged left ramus.

Figs. 8 and 9.—Sections with old clubbed colonies under low and high powers respectively.

Figs. 10 and 11.—Scrapings showing the streptothrix threads with coccus-like bodies in the centre of the clumps. Young clubs can also be seen with filaments in their long axes. One is particularly clear on the left of the large clump in Fig. 11.

Fig. 12.—Section from glands in Fig. 6. Low power. Young filamentatious colonies, not very easily differentiated with the low power photograph, owing to loss of colour contrast.

Fig. 13.—Section of Botriomycoma, horse. Low power. The dark colonies were at one time thought to be similar to those in Fig. 12.

The Ray-Fungus or Actinomysis.

As already stated, if a drop of actinomycotic pus or a scraping from a freshly cut lesion be examined on a glass slide, small granules visible to the naked eye may

be observed. If these are crushed by means of another slide or a coverglass, and examined by a low power of the microscope they will be seen to be made up of a number of club shaped bodies, radiately arranged with their attenuated extremities towards the centre. These are considered to be a late stage in the development of the parasite. If a section of a growth at a younger stage be taken and suitably stained, the organism, which is a streptothrix, will be seen as a bundle of filaments more or less irregularly arranged, branching and sending offshoots into the surrounding tissue. The filaments or threads are irregularly segmented and consist of a body and envelope. When a branch leaves the parental cluster it apparently meets with greater resistance and its growth is generally curtailed. It appears as though the envelope then swells at its distal extremity and so gives it the characteristic club-shaped appearance. Single clubs can thus be seen each with a central filament terminating about halfway up the club. (Fig. 11). Amongst the cluster of threads in the centre may also be distinguished collections of small round bodies, some of which appear refractile. They somewhat resemble micro-cocci but are regarded by many as spores of the organism (Figs. 10 and 11). In very old colonies the whole of the filaments spreading from the central mass have assumed the clubbed termination and frequently the central filaments themselves have perished, their position being occupied by a granular detritus. (Fig. 9). Some of the clubs may themselves be bifid or palmate, sometimes arranged like rosettes and at other times in banana-like clusters. Again in other specimens phagocytosis may be observed, large leucocytes holding the fungus in their protoplasm. This condition is largely responsible for the spread of the lesions. I trust you will each be able to make out all the above characters in the microscopic specimens and photomicrographs I have brought, all of which are from recent lesions in cattle.

In the human being the parasite is very similar, but there appears to be a greater tendency for the softening process to take place in the lesions.

Staining.

For ordinary diagnostic purposes, staining is not necessary, as the colonies in pus or scrapings of old tumours can readily be recognised with a low magnification. However, in order to study the forms of the parasite and the histology of the lesions, staining is very advantageous. The easiest way to stain *old clubs* is by *Plant's method*. Films must first be air-dried and fixed, either by heat or absolute alcohol. Then they, or sections, must be exposed to Carbol Fuchsin (Ziehl-Neilsen solution) for 10 or 15 minutes. Wash, and expose to a saturated alcoholic solution of Picric acid until the stain has been removed from everything but the clubs, the acid acting both as decolorising agent and contrast stain. Then wash in water, dehydrate in alcohol, clarify in Xylol and mount in Canada balsam. The *young colonies*, with filaments and the coccus-like bodies, are well-stained by the *Gram method* and in sections previously treated with carmine, a very pleasing preparation is made. The *Cladius method* is also very useful and simple, and consists of the application of Methyl-violet solution, followed by a watery solution of Picric acid, and then decolorised and dehydrated with alcohol and finished as above.

Cultural Characters.

The Ray fungus is an ærobic organism and grows best in Glycerine Bouillon or on Glycerine Agar, at or about 90°F. In the liquid medium it grows as small white granules at the bottom while the liquid itself remains clear, thus indicating that the organism is non-motile. The granules are composed of Leptothrix filaments some of which have clubbed ends. On Glycerine Agar the growth occurs after a few days in the form of small white shining grains. Later these enlarge and coalesce and generally become yellow and even brown, while some remain white. They become dry-looking and powdery, while in some very old cultures the growth turns black either wholly or in part, and the agar is coloured brownish black.

Symptoms.

The symptoms of actinomycosis almost entirely depend upon mechanical interference and consequently vary with the seat of the lesions. When there is systemic disturbance it is generally due to some complication rather than the Ray Fungus. This parasite appears not to produce any toxic material which is responsible in most febrile diseases for the elevation of temperature, and consequently the thermometer registers little or no alteration from the normal temperature. Respiration, the appetite, secretions and excretions are not altered unless the growths previously referred to impinge upon apparatuses concerned. Thus, when the tumour is confined to the skin frequently no symptoms other than the presence of the growth may be shown. The skin may be intact, or ulcerated, granulating, and discharging pus from one or more foci. When the tongue is affected to anything more than a very slight degree, prehension is interfered with and may be completely prevented and the patient loses flesh and may even die of starvation. The tongue is enlarged, protruded, almost as hard as a board, and may be ulcerated. There is dribbling of saliva, and when ulceration is present the discharges are offensive in odour. When the jaw, upper or lower, is the seat of the lesions in the early stages the inconvenience appears slight, but later mastication is rendered difficult, and so nutrition is not well maintained except with crushed concentrated foods requiring less grinding The growth here is very likely to burst, and that may occur outwardly or inwardly, the discharge feeling quite gritty. Teeth may become loosened or displaced. The most varying symptoms are shown when the pharynx is affected. If the growth is superficial it is generally pedunculated and may cause remittent roaring and dysphagia. If the polypus passes into the glottis asphyxia may supervene. If, on the other hand, the offending growth passes during swallowing into the mouth of the gullet, choking occurs, with its attendant symptoms of tympany, etc. This point brings me to a form which I am convinced occurs much more frequently than is diagnosed. The disease may invade the glands in the region of the throat, as in the case of the specimen shown, for which I am indebted to Mr. M'Gregor (Fig. 6.) The symptoms are those of roaring and difficult respiration and swallowing, food often being returned by the nostrils. On examination externally one may or may not appreciate an enlargement in the pharyngeal region, and on examining the inside of the throat with the assistance of a mouth speculum no irregularity of surface can be felt, but one thinks there is some constriction but cannot be sure since both sides appear quite the same, and normally the hand would be grasped by the pharyngeal muscles on examining the throat. These cases are generally more acute than the average. The symptoms may develop rapidly and are continuous, and unless put under treatment asphyxiation may soon occur. On examination of the enlarged glands after death, they do not show the usual characters, but are firm and yellowish in colour, with no centres of suppuration. A scraping from the freshly cut surface of the specimen before you (Fig. 6) revealed young actinomyces filaments and young clubs with the axial thread (Fig. 11). Sections also showed the same condition of the parasite. One of my colleagues informs me of several cases of roaring in cattle which have come under his observation without any discoverable cause. He suspected the possibility of actinomycosis, and treated accordingly,

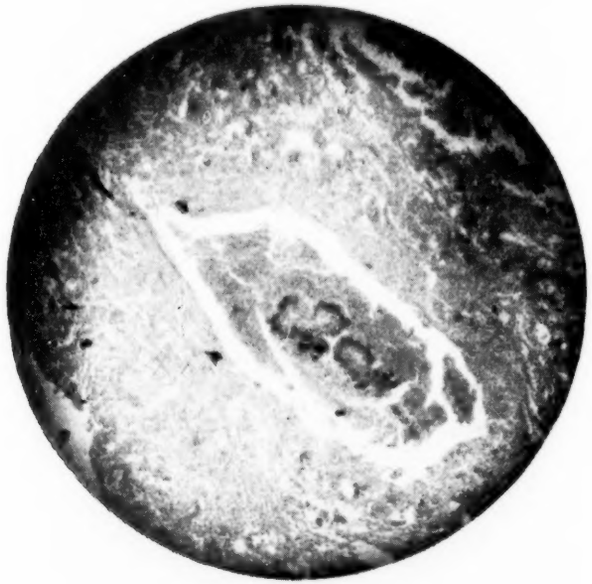


Fig. 8.

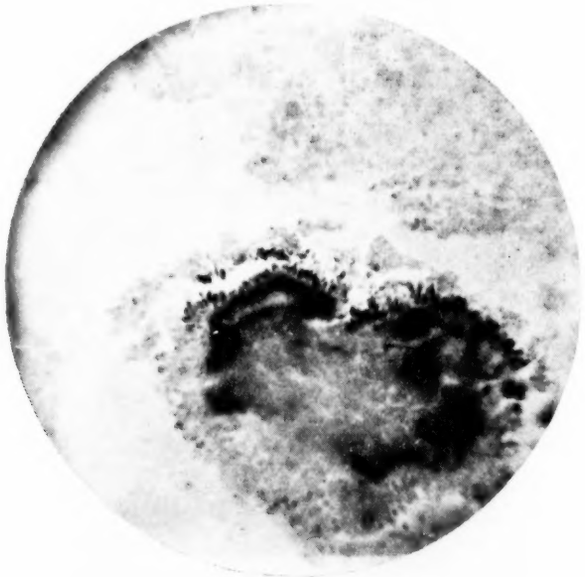


Fig. 9.

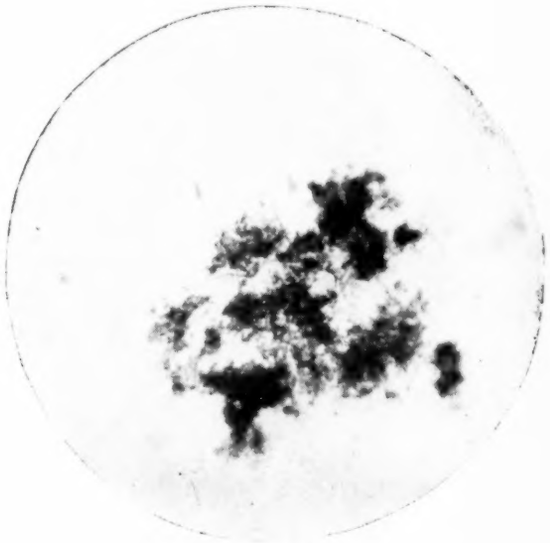


Fig. 10.

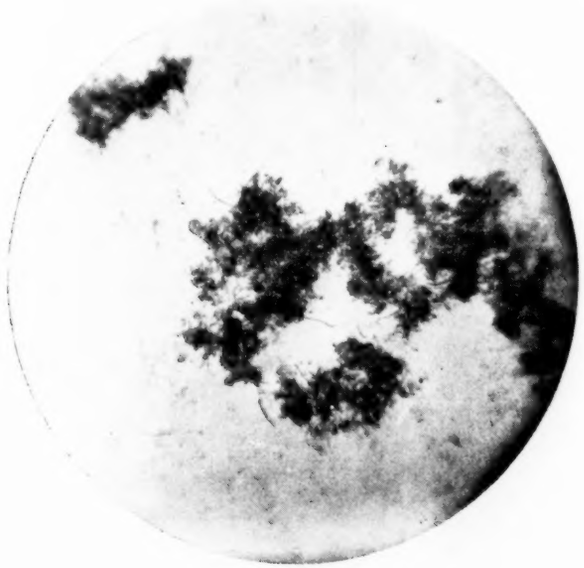


Fig. 11.

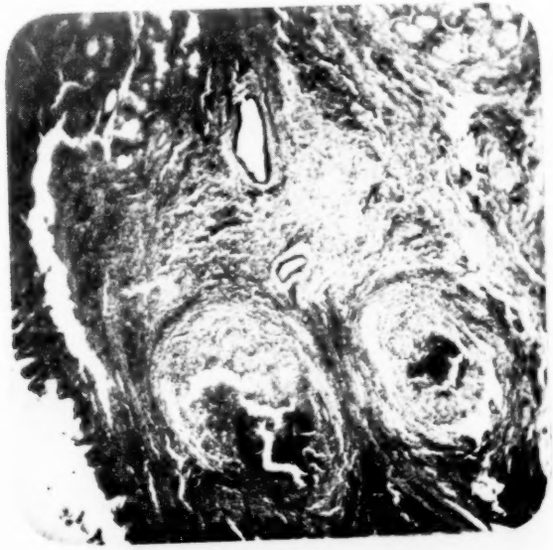


Fig. 12.

Fig. 13.

To illustrate Professor Wooldridge's paper on Actinomycosis.

Fig. 3.

Fig. 7.

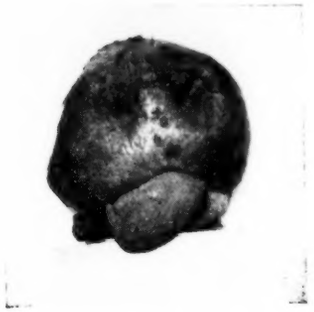


Fig. 2.

Fig. 5.

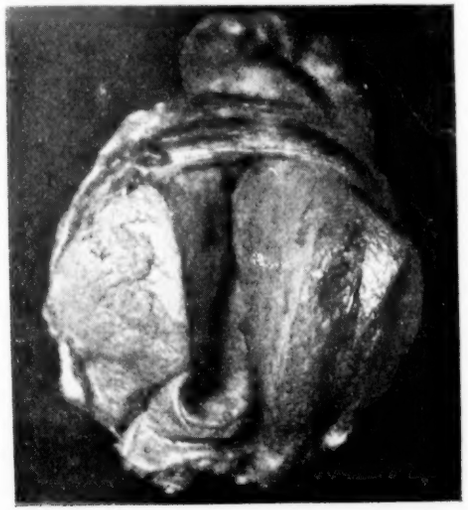


Fig. 6.

Fig. 4.

Fig. 1.

with subsequent recovery. Another rapidly growing form may attack the skin and subcutaneous tissues about the muzzle (Fig. 2), so that the anterior nares may be quite closed. Fig. 5 showes actinomycosis of the leg, which became enormously thickened, having a circumference of 18½ inches. The last two instances, and particularly the last one, would ordinarily baffle the clinician. They were only definitely diagnosed on staining preparations post-mortem.

Differential Diagnosis.

The conditions with which this disease used mostly to be confused were osteo-sarcoma, carcinoma and tuberculosis in cattle, and with botriomycosis (discomycosis) in the horse. In all cases the diagnostic feature is the discovery of the Ray fungus in the pus or tissues. The gritty condition of the pus and the presence of the colonies as seen by the naked eye when smeared in a glass slide serve to distinguish it at once. The lymphatic glands associated with the part affected are always diseased in tuberculosis but comparatively rarely in actinomycosis although this disease may spread by the lymphatics Tuberculin is not of much assistance, as although the lesion in question may be actinomycosis, yet tuberculosis in another part of the body would cause a reaction. Lastly, it may be distinguished by the improvement manifested when the patient is submitted to adequate treatment. However, this point would be of no service to distinguish it from Botriomycosis in horses, as it also yields good results to similar lines of treatment. The microscope is then essential, revealing the true nature of the botriomyces colonies, under a high power, to be clumps of micro-cocci. One should also remember that actinomycosis is extremely rare in horses, while botriomycosis is comparatively common in the form of scirrhous cords, shoulder tumours, etc. (Fig. 13).

Treatment.

May be either medical or surgical, or both. Formerly it used to be exclusively surgical, and consisted of the extirpation of the growths where possible; or the external application or injection of caustics to the growths. Excision is still the best for pedunculated growths on the skin or in the pharynx. In the latter situation they are difficult to reach, but may be snared with the aid of a mouth gag and a thin metal tube and piece of stout wire. With the exceptions of those cases, by far the best results are obtained by medical treatment, Potassium iodide being a specific for the disease. The dose should be regulated according to the size of the patient, and should be about 1 gramme (¼ drachm) for each 100 lbs. body weight, that is from 2 to 3 drachms, once daily. It is best given dissolved in about a pint of water and drenched, in order to ensure the animal getting the whole of it. After four or five days, the animal may show signs of iodism in the form of diminished appetite, catarrh of the nose and conjunctiva, and the fæces dry and may be coated with mucus. The potassium iodide must then be stopped for two or three days and a laxative dose of Epsom or Glauber salts given. The course of treatment varies apparently according to the susceptibility of the animal to iodism. Improvement is most marked in those animals showing signs of iodine poisoning, and in them with proper intervals a period of three weeks or a month will generally see recovery complete. In other cases six weeks may be necessary. The enlargement of the tongue or the tumour gradually shrinks in size and disappears, leaving only a small cicatrix to mark its previous existence if there has been a granulating skin wound. These good results, however, are not so well shown when the bones are invaded, as these hard structures are not so easily repaired. It is doubtful whether the case is worth treating if the swelling of the bone exceeds the size of a goose egg. Biniodide of mercury is sometimes used as a substitute for potassium iodide. The daily dose should be three or four grains dissolved with the assistance of ten grains of potassium iodide and administered as a drink. Although fairly good it is slow in action, and its effects are not so generally satisfactory. When there is ulceration or abscess formation, these conditions must be treated accordingly, by disinfection, curetting, and syringing or packing the cavities with wool and Iodised phenol or Lugol's solution. Law suggests that where potassium iodide fails in cases with purulent complications, injections of anti-streptococcus serum may be used with advantage. He also states that good results may be obtained by injecting potassium iodide solution twice a week into the tumour instead of giving it by the mouth (1 per cent. solution). I know of some practitioners in this country who apply pure nitric acid to the locus and claim very good results for it. In addition to its effects on the diseased parts, potassium iodide when administered for some time produces more or less emaciation, and glandular atrophy. This, however, can be largely overcome by regulating the doses and intervals, and seeing that the patient gets plenty of nutritious and easily digested food. Where the tongue is affected to more than a slight degree, liquid food, as milk and thin gruels, must be given and it may be necessary to administer them by bottle. Great care must be taken in drenching these animals, as choking may easily occur owing to the difficulty in swallowing. Another word is necessary with reference to milch cows. By the administration of potassium iodide the milk yield is considerably reduced, and the iodine is largely excreted by the mammary gland. Consequently the milk is tainted, and is rendered unfit for food, and of course the client should be informed of this fact previous to the treatment being adopted.

Two interesting cases in children were recorded in *The Lancet* of Oct. 29th, 1904, one affecting the chest wall and involving the nipple in a girl, and the other in a boy affecting the skin of the abdomen. Both cases were put on Pot. iodid. in doses increasing from 15 grs. to 80 grs. with slight or no improvement. They were then curetted and treated locally with good results, the Pot. iodid. being continued. In the case of the boy, Mr. D'Arcy Power acknowledged good results from the drug, as the growth always got worse during the intervals when the iodide was withheld, and improved again on its resumption. In neither case could any association with cereals be traced to account for its origin.

Meat Inspection.

As already noted, the human subject is susceptible to actinomycosis as well as cattle, but there is no satisfactory evidence of infection of man from diseased flesh. It is more probable that both obtain it from a common source. Moreover, the organism is, generally speaking, confined to the lesions. That being the case, the carcase of an animal affected with actinomycosis, provided that it is otherwise healthy, may be passed for human food with safety, the diseased parts only being condemned. The whole carcase would be condemned in those very rare cases of generalisation. Local actinomycosis with emaciation would justify condemnation, on the latter grounds.

Discussion.

Mr. Gooch said they were all very much indebted to Prof. Wooldridge for the very able manner in which he had treated the subject. It was not a new subject, but the ground had been covered in such a manner that they could not fail to be interested. He (the speaker) came from a district in which there was perhaps a larger percentage of cases than any other district in England, namely, the borders of Fenland. He understood the essayist to say that barley was more often a medium of ray fungi than any other cereal, yet a client of his with

a fen farm, where there was scarcely any barley, sent his cattle with wens to a highland farm where there was hardly anything but barley, and the wens disappeared. Some time ago he contributed a paper to *The Journal of Comparative Pathology* entitled "Is Actinomycosis Communicable by Cutaneous Inoculation," and the query was based upon an experience of his own. He had an animal affected by a wen, and 21 others were also attacked. He had been setoning them, the one with the wen happened to be setoned first. He could only attribute the outbreak to the fact that the 21 caught it through the setoning. In the ordinary wen he simply dressed with a strong ointment of biniodide well rubbed in, in a few days pus was formed, he made a bold opening, padded it with a little tow saturated with the biniodide, and the mischief passed away. He had other treatments for other forms of the disease, and as a rule, if he did not cure it he was able to get the best into such a condition as to ensure a decent price in the market. The average butcher, so long as he could buy a good fat beast, did not mind much about the lump on the jaw.

Mr. MERRICK said actinomycosis was a disease in which he was much interested, and he had treated it successfully for the past forty years. He began with iodide of potassium and sulphate of copper, and he acquired a considerable reputation in his district on account of the success which attended his treatment of beasts with "cancerous tongues," as they were called. In fact his clients often came and asked for his drinks, but he took care never to let them go cheaply, and his purse benefitted considerably by that means. He gave iodide of potassium in drachm doses, and by mixing it with linseed meal it often remained in the mouth and so was able to act locally as well as constitutionally.

Mr. MALCOLM said the paper was one which would appeal more to the country practitioner than to one in the town. In horse practice, he could not remember even having met with a single case. With regard to barley being a medium for the ray fungi, he might say that he had used a lot of barley for the past 20 years and he had never known it to affect the jaw of the horse. He could not suggest why a horse should be immune, or practically immune, from the disease, but nevertheless such seemed to be the case. With reference to the treatment of actinomycosis, iodide of potassium seemed to be accepted by most practitioners as a specific. He wished it was equally a specific in cases of discomyces, he had employed it in the latter case without any beneficial results. He had met with actinomycosis in the slaughterhouse, they generally destroyed the affected part and allowed the carcase to pass, and he knew of no reason why they should not do so. There was certainly no well authenticated case of any man having been affected by eating the meat.

Mr. BURCHNALL said that country practitioners owed Prof. Wooldridge their thanks for the instructive and interesting way in which he had brought this matter forward. He believed, from what he had been able to observe himself, that this was a disease which was very much on the increase. At any rate, it seemed to be the case in his particular district. He always had the impression that it was contagious, because he seldom found a case occur on a farm without several other cases occurring during the next six or twelve months. He thought it might be that an animal had obtained some of the droppings from the mouth of an affected animal and so caused the disease to spread. His experience was that there was no form of the disease so easy of treatment as when the tongue alone was affected, and he found without exception that every case yielded to the iodide of potassium treatment. With regard to wens, assuming it really was the same disease, he believed almost anything would cure them. He usually slit them open with a knife and applied a strong dressing of biniodide of mercury ointment. The worst cases he got were in young animals—say yearlings and under, they did not get on as well as older animals, and especially if the nostrils or upper jaw were affected. In fact it was a question whether such cases were worth treating. There was one form of actinomycosis which he had only met with half a dozen times, and that was an enlargement of the thigh of the beast. He had generally met with it in two or three year old heifers, and the animals sometimes were not even lame. He had not always treated it as actinomycosis, but he now thought that was what it must be. With regard to treatment, he was in favour of alternating the iodide of potassium with biniodide of mercury. There was a very marked tonic effect about biniodide of mercury which was not met with in iodide of potassium.

Mr. REYNOLDS said with regard to barley being a cause of actinomycosis, in his country there was very little plough land, and yet the disease seemed to be on the increase. He could not therefore quite see the connection between barley and the disease. In the matter of treatment he found that iodide of potassium was better than biniodide. He had never met with a case in the horse.

Mr. HAYWOOD said there were not so many cases round Leicester as in other districts. The general treatment was iodide of potassium, and he always found tongue cases go on well. According to his experience, those affecting the bone of the jaw, especially if near the teeth, did not progress so well.

Mr. OVER said he would like to add his quota of thanks to Professor Wooldridge for his most excellent paper. With regard to treatment, at one time he used to scarify very deeply, but he could not say it was at all successful, and he had not done it for some little time. The biniodide treatment was what he generally adopted, and if it was not going on as well as it should, he usually changed to iodide of potassium. When there was a thickening of the throat, without showing itself in any particular place, he generally used iodide, but for a special enlargement he had used biniodide of mercury with very good effect.

Mr. SPENCER said that one thing which struck him in the paper was the account of the way in which a beast became iodised. He (the speaker) had never seen a beast iodised, and he thought it must be an extremely difficult thing to get the system sufficiently saturated to show the effects of it. He had often given two drachms twice a day for a month, but had never seen any hurt from it. He did not think iodide of potassium did much good when the jaw was affected; though he had often persisted in the treatment he met with poor results.

Mr. COE said that as he had never seen the disease in his district, he knew nothing about it beyond what he had read in the text books. He would like to know, however, what the tongue must look like when rubbed with biniodide of mercury. It must present a horrid sight.

Mr. W. CARLESS said he saw very little of the disease in his district, although he had seen it occasionally. He had given his patients iodide of calcium, which was cheaper than many other remedies. His difficulty was when the throat was affected. It was then that he generally bade the animal adieu. If he got an animal that was at all emaciated it was seldom he advised treatment, and when he could not promise a result satisfactory to the owner his usual remedy was a knock on the head.

Mr. PARR said he may have seen several cases of actinomycosis, he had not always diagnosed them. He remembered taking out a tumour from the jaw several years ago, which proved to be this disease.

The HON. SEC. said he should like to express his regret to Professor Wooldridge on account of the absence of a lantern to enable him to display the slides he had

brought. He (the Hon. Sec.) had made arrangements, but through no fault of his they had failed. He was the more sorry because the illustrations which Professor Wooldridge was prepared to display formed a remarkable series and would have interested all present.

Mr. McGregor gave a short history of a specimen which was shown on the table. It was from a heifer eighteen months old, and was at first a case of roaring. The animal was unable to feed, and becoming much worse was slaughtered, with the result shown.

Mr. W. S. Carless said the disease was seldom seen in his district, but such as had come under his care had generally yielded to the iodide of potassium treatment. He would like to know for certain whether a wen was the same thing as actinomycosis. He came across lots of wens, but did not always associate them with the same disease.

The President said he should like to thank Prof. Wooldridge for having come so far to give them such an interesting address. He first made Professor Wooldridge's acquaintance at the Cirencester College, where they were very sorry to lose him, and he knew of his own knowledge that he was as good an operator as they had heard him to be a lecturer. A few years ago, he (the President) made a study of the subject, and he discovered organisms which were more like corkscrews than the club-like bodies which Professor Wooldridge had referred to. He had no doubt it was the same disease which had been more perfectly demonstrated in recent years. From the older books he consulted, it was evident there was nothing known of the organism, which thirty years ago had not been demonstrated in any conclusive manner. He should like to know how long it had been accepted that ray fungus was the cause of this particular malady. He again thanked Professor Wooldridge for coming amongst them, and giving them such an interesting paper.

Professor Wooldridge replied to the discussion, and first thanked the Association very heartily for the cordial reception they had given him. He was disappointed at not being able to give the demonstration with the lantern slides which he had brought.

With regard to the questions raised in the discussion Mr. Gooch wondered how it was that cattle were affected in a particular fen district, where there was no barley grown, and not in the highland district where there was plenty of barley, and that on removal to the latter place, in spite of the barley, affected animals even showed a tendency to recover. He (the speaker) was afraid he had been misunderstood, he did not condemn barley as being the cause of the disease. The cause of the disease was the ray fungus, and no matter how much barley was present without the ray fungus there was no actinomycosis. Other cereals might inoculate the disease, but barley was the commonest. Since the fungus apparently flourished much better in a marshy locality, the fen district would be a particularly suitable one. The absence of barley in the fen district might diminish the disease there, but there would be opportunities for the fungus to gain access by means of other food. The reason barley was blamed so much was that barley grains had been found in the lesions, and as it was liable to cause wounds in the mouth it afforded a favourable point of entrance for the germ. Mr. Gooch related a very interesting outbreak after setoning. There again was an example of wounds in any part or from any cause being suitable for the disease, provided the organism was once introduced. In this case Mr. Gooch did not suggest any barley, all that happened was that the animals were setoned, and that the instruments might have become infected from the first case with the discharge, which was introduced into the tissues along with the setons, or the organisms may have gained access subsequently. Reference had been made to the use of biniodide of mercury after scarifying, but he should think it was a most painful operation, and if they could obtain the same end by less drastic means he did not think such severe methods were justified. He was glad to find that iodised phenol was used.

With regard to Mr. Merrick's system of local application, the organism was a vegetable parasite, and as copper sulphate was a powerful disinfectant it might certainly do considerable good. Mr. Malcolm wondered why the use of iodide of potassium in discomycosis was not attended with good results; that was exactly his (the Professor's) experience, although it might reduce the growth somewhat the results were not nearly so satisfactory as in actinomycosis.

Mr. Burchnall suggested that actinomycosis was contagious because one case was generally followed by others on the same farm. He would rather suggest that those patients got the disease from a common source than that they got it from one another. The use of iodide of potassium alternately with biniodide of mercury sounded very well. He had not tried it himself, but he thought it would be advisable to do so, because they found that when they were compelled to give an interval in the administration of the iodide of potassium on account of the patient becoming iodised, there was a tendency for the tumour to increase. In the meantime if they could employ something else which would tend to reduce the growth it would be much better, and there would be a more constant progress made towards recovery.

Mr. Spencer was surprised at animals becoming iodised on quantities which he had given without that result. He should like to know how Mr. Spencer administered it.

Mr. Spencer: As a draught.

Professor Wooldridge said he could not explain it further. He had seen animals which appeared to be more or less immune to the effects of potass iodide, and very little good resulted from the treatment, as in Mr. Spencer's case; but where there was marked iodism there were generally better results. The President had asked for some information as to the history of the fungus or the researches into it. Actinomycosis bovis was first described by Rivolta, in Turin, in the early seventies. He described the ray fungus as being a number of club-shaped bodies present in the pus and in the lesions of actinomycosis. Bollinger in 1876, he believed, was the first to make a series of investigations in connection with it, and laid it on a more definite foundation, describing both filaments and clubs in pus and lesions. These researches were carried out to a still further degree by the late Professor Nocard, of Paris. Dr. Thomassen, of Utrecht, had also done good work in the same direction, and it was as far back as 1888 when he described iodide of potassium as a specific for actinomycosis, so that iodide of potassium, as a remedy, was by no means new.

Mr. Burchnall pointed out that it was iodised phenol which he rubbed on the tongue, and not biniodide of mercury, which he only rubbed into the wen.

Professor Wooldridge apologised for any misunderstanding. Still, though not so acute as if rubbed into the tongue, it would bring unnecessary pain.

Mr. Gibbings moved a vote of thanks to Prof. Wooldridge for his very interesting paper. This was seconded by Mr. Coe, and heartily carried, Prof. Wooldridge suitably responding.

Before departing, the members had tea together.

H. J. Dawes, F.R.C.V.S., *Hon. Sec.*

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Nov. 26, 1904	18	21	..	..	31	44	..	..	15	59
Corresponding week in 1903 ..	15	17	..		22	56	..	..	28	136
Corresponding week in 1902 ..	11	14	..	..	19	30	..	..	32	146
Corresponding week in 1901 ..	23	31	..		26	43	..	..	25	105
Total for 48 weeks, 1904	932	1395	..	..	1427	2496	..	..	1140	5343
Corresponding period in 1903 ..	696	1045	..	..	1362	2344	..	..	1379	7302
Corresponding period in 1902 ..	622	964	1	120	1078	1927	12	11	1583	7687
Corresponding period in 1901 ..	585	847	12	669	1270	2198	1	1	3036	14696
Board of Agriculture and Fisheries, Nov. 29th, 1904.										
IRELAND. Week ending Nov. 19, 1904	1	4	..	..	..	..	..	..	..	1
Corresponding Week in 1903 ..	..	..	..	..	..	..	..	..	1	56
Corresponding Week in 1902 ..	..	..	..	..	..	..	..	..	2	29
Corresponding Week in 1901 ..	..	..	..	..	..	..	..	..	1	8
Total for 47 Weeks, 1904	4	7	..	..	11	34	..	..	180	4068
Corresponding period in 1903 ..	3	10	..	..	3	4	2	..	161	3830
Corresponding period in 1902 ..	..	..	..	..	9	41	..	..	158	3083
Corresponding period in 1901 ..	2	4	..	..	4	4	1	1	217	3850

Epizootic Lymphangitis, Week ending Aug. 6. 1 case.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, Nov. 24th, 1904.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection.

TRYPANOSOMIASIS IN THE ANGLO-EGYPTIAN SOUDAN.

By ANDREW BALFOUR, M.D., B.Sc., M.R.C.P.EDIN., D.P.H.CAMB. Director, Wellcome Research Laboratories, Gordon College, Khartoum.

[PRELIMINARY NOTE.]

On staining some films of the blood of a donkey which had been brought from the Bahl-el-Ghazal province in the summer of 1903 by Colonel Griffith, D.S.O., Principal Veterinary Officer in the Soudan, I found trypanosomes present. El Bimbashi Head, of the Veterinary Department, assisted by Dr. J. B. Christopherson, likewise found these parasites in the blood of mules from the same region. These finds were to be expected, as the tsetse fly has been known to exist in those districts since first reported by the Pethericks at Runbek in 1869. *Glossina morsitans* was found by Colonel Griffith last year on the Pongo River at the place where the road from Wau to Dem Zobeir crosses it, the most northerly point of occurrence yet recorded for the Soudan. Several specimens, all of the same species, have been sent me by Captain Brakenridge, E.M.C., at present stationed in the Bahr-el-Ghazal. The above mentioned trypanosomes appear to be trypanosoma brucei, but the whole subject has taken an additional interest by the discovery of trypanosomes in the blood of cattle from Kodok (late Fashoda).

The cattle in question were members of a herd purchased by a Greek trader in the Shilluk country and brought by him to a place some fifteen miles from Khartoum. There the animals were inspected by Bimbashi Head, Army Veterinary Department, who, suspecting that the disease amongst them might have been induced by tsetse bites, secured blood films. On submitting these to examination in the laboratory, trypanosomes were found. One of the diseased cattle, in whose blood many parasites were present, was slaughtered, and the trypanosomes were found in smears made from the liver and spleen, while in the cerebro-spinal fluid amoeboid forms was discovered closely resembling those mentioned by Castellani as occurring in the cerebro-spinal fluid in sleeping sickness, and by Plimmer and Bradford in the bone marrow in cases of nagana. Further, long chains of streptococci were present in smears made from the spinal fluid. These were possibly the results of contamination, but are interesting in the light of Castellani's preliminary work in Uganda.

In an ox which died of the disease and in whose blood trypanosomes had been demonstrated, a most curious condition of pigmented ulceration was disclosed in the mucous membrane of the stomach. At present I am not inclined to regard this as having any association with the trypanosomiasis. Another ox suffering from bovine nagana is now under observation, and it is hoped that the condition may be fully investigated. On this ox I found large numbers of a tick, the male possessing a brilliantly-ornamental scutum and striped legs. I think it belongs to the genus *amblyomnia*, or possibly is the species *variegatum*—an African variety of which I have no detailed description.

The question of human trypanosomiasis in the Soudan is important, owing to the geographical position of the country and, in the light of Roger's work, the fact that the Leishman-Donovan bodies were found last year by Dr. Sheffield Neave in the spleen of a boy from Meshra-el-Rek, in the Bahr-el-Ghazal. So far trypanosomes

have not been discovered in human blood, nor has *Glossina palpalis* been reported to exist. Dr. Neave, who, thanks to His Excellency the Governor-General and to Mr. Wellcome, has recently been appointed Travelling Pathologist and Naturalist to the Research Laboratories, is now on his way out from England, and will endeavour to investigate the whole subject on the upper reaches of the White Nile and in the Bahr-el-Ghazal province during the present winter. It is hoped that he may be able to localize the existing fly belts and determine what species of *Glossina* exist and how they are distributed. The question of the occurrence of trypanosomiasis in big game will also be considered.

In the Northern Soudan trypanosomiasis has not been proved to exist. I have examined the blood of bats, mud-fishes, and small birds and mammals, with negative results. This may be due to the paucity of observations or to the rarity of the larger biting diptera in the neighbourhood of Khartoum. At the same time the recent work of Schaudinn on the halteridium stage in birds, and Chatterjee's discovery in 1902, of a living trypanosome in the stomach of an *Anopheles* mosquito have to be borne in mind. Much of the wealth of native tribes in the Southern Soudan is represented by cattle, and it will be a very serious matter if bovine trypanosomiasis is found to exist to any extent, and in a severe form, amongst the Nuer, Dinka, and Shilluk herds. Portions of the spleen and liver referred to, and a few slides of blood smears have been forwarded to the London and Liverpool Schools of Tropical Medicine. The form of trypanosome present can thus be compared with the varieties already known from Uganda, East and South Africa, Nigeria, Senegambia, the Congo Free State, and other parts of Africa.

Had it not been for Bimbashi Head's knowledge of the subject, and his enthusiasm for the work, the disease would have been missed. As illustrating his interest in the subject, and the difficulties of research in such a country as the Soudan, I may mention that he had to ride thirty miles on several occasions, for the most part in blazing heat, and had to carry the portions of diseased organs, etc., fifteen miles on horseback for purposes of examination.—*The British Medical Journal.*

HONOURING PROFESSOR WILLIAMS.

On Friday, Nov. 18th, Professor Owen Williams, formerly Principal of the New Veterinary College, Edinburgh, and now Professor of the Principles and Practice of Veterinary Medicine and Surgery at Liverpool University, was entertained to a complimentary dinner in the Royal Hotel, Edinburgh, in recognition of his work as head of the New Veterinary College, Edinburgh. Mr. James Hope, East Barns, presided over a company of about sixty gentlemen, among whom were Dr. Marshall, Royal High School; Mr. M'Hutcheon Dobbie, Campend; Mr. Paton, City Chamberlain; Principal Dewar, Royal (Dick) Veterinary College: Mr. James Macdonald, Secretary of the Highland Society; Mr. S. Gray, Southfield, etc.

After dinner the loyal toasts were given from the chair, and Mr. T. Leslie Usher proposed "The Imperial Forces," for which Lieutenant Gray, Southfield, responded.

The CHAIRMAN, in proposing the toast of the evening, recalled the fact that Professor Williams came to Edinburgh as a boy in 1867, when his father took Professor Dick's place at the College, and was educated at the Royal High School, Edinburgh University, the New College, and the Alfort Veterinary in France. As a trooper in the Lothians and Berwickshire Yeomanry, he was the only veterinary officer that got a commission. During the time of the South African War he was appointed inspector of remounts at New Orleans, and performed the duties of that post with credit to himself and great satisfaction to the Government. He had also been President of the Royal College of Veterinary Surgeons, and he was the first veterinary surgeon to be elected to a University chair. That said a great deal for Professor Williams and for Edinburgh. (Applause). His friends wished him great prosperity and long life in his new career.

Prof. WILLIAMS, who was received with enthusiasm, warmly acknowledged the honour that the company had done him that night. With reference to his appointment in America during the time of the war, he said that when the war broke out he offered to go to South Africa with a number of his students to form a veterinary hospital, knowing that if he succerded in that the other veterinary colleges would at once follow suit in the keenest and friendliest rivalry as to who could do the best for the horses which were sick or wounded. The War Office, with 110 veterinary surgeons, instead of 147, declined the offer, but within two years it had applied for 300 civil veterinary surgeons, and latterly could not get them, even at £5 a day, so dissatisfied were the men with the treatment they received. He saw that this was a most serious thing, and when he had the honour of being President of the Royal College of Veterinary Surgeons he went to the War Office, but without success. In a couple of years, however, the War Office were persuaded to take action. A committee was appointed, and he had the honour of being appointed a member of it. The Committee worked out a scheme by which the time of promotion of a veterinary officer was reduced, his pay and pension were increased, and he was given what was nearest and dearest to them all, the rank of a combatant officer. (Applause). The Professor went on to speak of the efforts which had been made to secure for Scotland a sum equivalent to that granted to Ireland for the purposes of veterinary science. Without such endowment, it was impossible for the work of the Veterinary Colleges to be effectively done. Hitherto the only endowment of the veterinary schools had been the earnings of the practitioner who ran the school, and anything that was left over from the students' fees. The removal of the New College to Liverpool had been opposed in many quarters, but they had succeeded in Liverpool. They were determined to have the best veterinary school there that there was in the country. They certainly had the best equipped school in the country—a better equipped place than was to be found anywhere nearer than Germany. They had determined to advance veterinary science in the same way that they had determined to advance medical science and other sciences, all of which were of value to commerce and to the Empire. Professor Williams concluded by returning thanks for the honour done him, which he believed was done as much out of respect for the memory of his father as for himself.

Complimentary Dinner.

Professor M'Fadyean and Mr. Dodd, M.R.C.V.S., of the Royal Veterinary College, were entertained to dinner at the Trocadero Restaurant, on Monday, November 28th, by the members of the post-graduate course. After the customary loyal toast, Col. Flintoff proposed the health of the guests of the evening. The toast was received with great enthusiasm and accorded musical honours. Quite a feature of the evening was the number of toasts proposed, duly honoured, and replied to. These included the medical profession, foreign representatives of the profession, the colonial veterinary service, the Army Veterinary Department, and the Indian Civil Veterinary Department, all of which were represented. A vote of thanks to Colonel Flintoff for presiding, proposed by Professor M'Fadyean, brought a most enjoyable and social gathering to a close.

Dangers of Double Kerbs.

Mr. Troutbeck, held an inquest at Westminster, on Monday, 28th ult., on Robert Arthur Wilson-Watkins, aged 39 years, a veterinary surgeon's assistant, of Park Street, Grosvenor Square. The evidence showed that Mr. Wilson-Watkins, who was rather short-sighted, left Park Street on Thursday evening with a pony and carriage for the purpose of making some calls. At one point in Union Street, Pimlico, there is a "double-step" kerb, considered by several witnesses to be a source of danger to drivers, and especially so when almost concealed by accumulations. On reaching that point the near side wheel of the carriage struck the lower kerb, and the vehicle was turned completely over, with Mr. Wilson-Watkins underneath. He died the next morning in St. George's Hospital from fracture of the skull. The Coroner said that there could be no question as to such a projection as had been described constituting a grave danger. The jury returned a verdict of accidental death, and added a rider that the attention of the responsible authorities should be directed to the danger.—*Morning Post.*

Personal.

CLARKSON—PICKERING.—November 30th (by license) at St. Mary's Church, Garforth, by the Rev. R. C. Wilford, J. Clarkson, M.R.C.V.S., to Hetty, daughter of Thos. Pickering, both of Garforth.

OBITUARY.

JAMES COLLIER SOULSBY, M.R.C.V.S., Whitehaven. Graduated, Edin: 1857, 1867.

Mr. J. C. Soulsby, veterinary surgeon, Irish Street, Whitehaven, died on Wednesday, 9th Nov.: it has been generally known in the town for some few days that he was very ill. Mr. Soulsby has practised in Whitehaven for a great number of years, and was well-known and very highly respected. Outside of his professional duties and the domestic circle he never roamed. In connection with public affairs his name was never heard. But as a vet. his word was as good as his bond; and in social circles his name was a synonym for steady integrity and unobstrusive virtue. He had two sons, one of whom practices as a V.S. at Cockermouth, and the other is Captain Soulsby, of the Workington Rifle Volunteers. He also leaves a widow, who has long been the partner of her husband in widespread respect and esteem. Mr. Soulsby was 70 years of age. The interment took place at the Cemetery on Saturday, 12th inst. A service was held at the Wesleyan Church at 11.30.—*The Whitehaven News.*

CORRESPONDENCE.

"THE HOSS."

Sir,

The "quatrain" published under the head of "Pantheism," on page 277 of *The Record* of October 29th ult., and "thought to be altogether too good to be lost in the oblivion of the *W.P.B.*," is not the product of the brain of a veterinary surgeon and dentist practising in Oregon, U.S.A." but is the last stanza of a poem on "The Hoss," written in the "Hoosier," or Indiana, dialect by James Whitcomb Riley (the Indiana poet), whose works are pretty widely known. The grammar may appear "shaky," but not more so, one would imagine, than if it had been penned in the Yorkshire, Somerset, Durham (amang the Geordies), or other provincial English dialects. It was entirely out of place, of course, on the stationery of an ethical graduate in veterinary medicine and surgery, and its appearance there no doubt prompted the impression that it must have been prepared specially by the individual, on whose letter paper it appeared, as an advertising attraction. The grammar in the original is even worse than that quoted in *The Record*, which is not an exact quotation. I am sorry I cannot lay my hands on the complete poem, but the last two verses (which the writer once took occasion to quote at the conclusion of a paper presented before the American Humane Association) run as follows:

"But when I see the beast abused,
And clubbed around as I've saw some,
I want to see his owner noosed
And jest yanked up like Absolum!

I love my God the first of all,
Then him that perished on the cross;
And next, my wife,—and then I fall
Down on my knees and love the hoss."

Riley is an educated man and a scholar, as anyone may infer who will read his "Love-Lyrics," and other works, and he is considered one of the best dialect (especially the "Hoosier" dialect) writers in America.

I trust you will pardon my occupying so much space with something that can be of very little interest to the general reader of *The Record*. It may, however, be a matter of information to your correspondent who made reference to the quatrain in question.—Very truly yours,

W. H. DALRYMPLE.

Baton Rouge, La., Nov. 15.

[Our apologies to Mr. Riley, with hopes for a better acquaintance.]

ARMY HORSE CLIPPING.

Sir,

In *The Veterinary Record* of November 26th in a paragraph under this heading it appears that the general officer commanding on Salisbury Plain directs that instead of *throwing* troublesome horses for the purpose of clipping them they are to be placed under restraint, and amongst other methods suggested is "*even requesting the veterinary officer to administer a stupefying dose of chloroform.*" Who the wiseacre is that makes such a suggestion I do not know, but it is obvious that some knowledgeable officer has done it off his own bat without consulting the veterinary authorities. How chloroform is to be administered without throwing the horse the general officer does not condescend to explain, and God help him if he does try. I made the attempt once "never again" with the result that a stable door and a brick wall were completely demolished, and my assistant, two grooms, and myself nearly so.

I think that the veterinary officer requested to administer the stupefying dose of chloroform to the horse *standing* would be justified in asking for time to take out an extra hazardous policy in the Accidental, and in common fairness the general officer commanding the Salisbury Plain District should pay the premium, or he might possibly find himself indicted for manslaughter.

Should the general officer commanding the Salisbury Plain District carry out the advice he gives "in person" I would earnestly request him to give us poor ignorant country practitioners his experience through your columns. Perhaps, however, the gallant officer has been through a *veterinary course* and is a walking example of the little knowledge that is a dangerous thing, as he plainly has mistaken *chloroform* for *chloral*. Of a truth "Fools rush in where wise men fear to tread."—Yours,

OBSERVER.

November 27th.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. Capt. W. A. Pallin, Capt. G. R. Walker, Lt. Col. J. W. A. Morgan, Messrs. C. R. Chadwick, W. H. Dalrymple, T. Slipper, C. W. Tyler, Prime & Sons, P. T. Bolton. F.E.P.

Report Imperial Bacterologist, C.V.D., India, 1903-4; Chronic Bronchitic, Pleuritic and Pneumonic Coughs in Horses and Cattle, by F. E. Thomas, V.S.; *The Morning Post, The Standard, The Shrewsbury Chronicle, The Daily Mail, The Scotsman, The Twice-a-week Picayune, New Orleans.*